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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PATEL, HEMANT SHANTILAL

ART UNIT

PAPER NUMBER

2614

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/779,838	Applicant(s) BYE, RICHARD A.	
	Examiner HEMANT PATEL	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 49-59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 49-53 and 58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 54-57, 59 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 26, 2009 has been entered.

Restrictions

2. Amended claims and new claims belong to separate classes as follows.

- I. Claims 1-12, 49-53, 58, drawn to Voice over Internet Protocol (VoIP) network, classified in class 370, subclass 352.
- II. Claims 54-57, 59, drawn to Wireless Network, classified in class 455, subclass 554.2.

3. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination I has separate utility such as Voice over Internet Protocol (VoIP) network interface for a wired network and it does not require WLAN, and cellular radio frequency or satellite interface with wireless terminal. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

The claims related to WLAN and wireless were already restricted without traverse with the first office action and the corresponding claims were already cancelled by the Applicant in the subsequent response. Hence, these claims 54-57, and 59 are restricted and not examined. Applicant is required to cancel these claims 54-57, and 59 in the next response to this Office Action.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-12, 49-53, 58 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably

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convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The independent claim 1 (ll. 23-29) recites "the processor monitors a second service level at which real-time communication is supported within the first network using the second coding scheme; and when the second service level is below the minimal service level within the first network, the processor directs packetized communications with the at least one additional VoIP terminal to be serviced within the second network using the second network interface" (emphasis added), dependent claim 49 recites "a third service level" and "the third service level", dependent claim 50 recites "a fourth third service level" and "the fourth service level". However, the instant application discloses only one service level for monitoring the real-time communication (Specification, Paragraph 0013, pg. 7 ll. 19-20).

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-12, 49-53, 58 recite the limitation "the at least one additional VoIP terminal" in line 16-17 of independent claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be

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patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-2, 4, 6, 10, 49-51, 53, 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Civanlar (US Patent No. 6,339,594 B1), and further in view of Shah (US Patent No. 7,307,980 B1), and further in view of Fall (US Patent Application Publication No. 2003/0067941 A1).

Regarding claim 1, Civanlar teaches of an apparatus, comprising:

a first network interface coupled to service packetized communications with at least one Internet Protocol terminal (Fig. 2 item 71) within a first network to service packetized communications (Fig. 4 item 109 one of the interfaces to first gateway);

a second network interface coupled to service the packetized communications with at least one Internet Protocol terminal via a second network (Fig. 4 item 109 any interface other than the interface to above first gateway);

a processor coupled to the first network interface and to the second network interface (Fig. 4 items 104, 105, 204, 304, 311, 312, 313); and

a codec, coupled to the processor, that employs a corresponding coding scheme to encode or decode each of the packetized communications (col. 6 ll. 29-63); and

wherein:

the processor determines a communication signature for each of the packetized communications (col. 7 ll. 3-13);

the processor determines, based upon a corresponding communication signature, whether a packetized communication is a real-time communication (col. 7 ll. 3-13 packets identifying type of voice encoding and thus real-time communication);

when the packetized communication is the real-time communication, the processor initially directs packetized communications with the at least one additional IP terminal (Fig. 3 item 72) to be serviced within the first network using the first network interface (Fig. 4 item 109 one of the interfaces to first gateway) (col. 4 ll. 8-col. 10 ll. 44 for complete details).

Civanlar teaches of codec using various coding schemes and detecting Quality-of-Service requirements for the requested call but Civanlar does not teach codec to be a programmable codec, monitoring a first service level supported for the real-time communication within the first network; and also does not teach when the service level is below a minimal service level, the programmable codec changes a coding scheme by which the real-time communication is encoded or decoded therein to a second coding scheme. Civanlar also does not teach monitoring the service level of real-time communication supported by the second coding scheme within the first network, and if the second service level is below the minimal service level then directing the packetized communication of the additional IP terminal to the second network interface using the second coding scheme.

However, in the same field of communication, Shah teaches of an apparatus (Fig. 1) supporting VoIP real-time communication (col. 4 ll. 44-col. 5 ll. 25) using programmable codec (col. 5 ll. 26-col. 6 ll. 42), monitoring the service level of this real-

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time packetized communication compared to minimum service level (threshold), and when the service level is below minimum service level, the programmable codec changes the coding scheme for the real-time communication during the same call (col. 7 ll. 22-64) (col. 4 ll. 26-col. 10 ll. 26).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Civanlar to include codec as a programmable codec and dynamically adjust its coding scheme as per monitored quality of service level for the real-time communication during the call for VoIP terminal as taught by Shah “for employing dynamically varying compression techniques, either manually or automatically, in packet switching network environments allowing for adjustments to be made by varying the compression technique in accordance to the usage of the network” (Shah, col. 3 ll. 31-36).

Shah teaches of redirecting communication between multiple coding schemes but Civanlar and Shah do not teach of redirecting communication between multiple network interfaces.

However, in the same field of communication, Fall teaches of an apparatus (Figs. 1, 2) and method (Fig. 4) of precedence-based routing/rerouting algorithms and methods for preempting or bumping a low priority traffic by directing its existing path to still lower priority backup path to accommodate a higher priority traffic requirement (Paragraphs 0006-0011, 0017-0040).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Civanlar and Shah to include precedence-based

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routing/rerouting algorithms and methods for preempting or bumping a low priority traffic by directing its existing path to still lower priority backup path to accommodate a higher priority traffic requirement as taught by Fall in order to “proactively discover a secondary route for every real time user flow through the wireless or dynamic network” to “improve quality of service (QoS) for a wireless or dynamic network” by (Fall, Paragraph 0017).

Regarding claim 2, Shah teaches wherein:

the programmable codec employs a first coding scheme to encode or decode a first packetized communication of the packetized communications (one coding scheme before congestion or before user selecting to change coding); and

the programmable codec employs a second coding scheme to encode or decode a second packetized communication of the packetized communications (second coding scheme after renegotiation and switching to another codec type after congestion detection or after user selection) (col. 7 ll. 22-col. 9 ll. 49) (also col. 9 ll. 50-col. 10 ll. 26 switching between voice mode and fax mode).

Regarding claim 4, Fall teaches of multiple servicing networks (primary and backup) wherein if a high priority real-time traffic fails due to congestion, it is rerouted to its backup route (Paragraphs 0009-0010, 0019-0023).

Regarding claim 6, Civanlar teaches of a pair of communication signatures for packets in both directions (col. 7 ll. 3-13 bandwidth utilization, Quality-of-Service in received packets in both directions). Shah teaches of a pair of communication signatures for packets in both directions (col. 7 ll. 22-54, Fig. 3 between packet network and user device).

Regarding claim 10, Civanlar teaches the real-time packetized communication is an audio communication (col. 6 ll. 29-col. 7 ll. 40). Shah teaches the real-time packetized communication is an audio communication (col. 4 ll. 44-col. 5 ll. 16).

Regarding claim 49, recites limitations to use programmable codec to employ different coding scheme for different network interface, and if service level for real-time communication is below minimal service level for the specific network then programmable codec changes coding scheme to another coding scheme. Civanlar teaches of multiple networks (Fig. 3), and Shah teaches of changing coding scheme for the given network interface (Fig. 5 and its description), it would be obvious to a person skilled in the art to employ changing of coding schemes for multiple networks with their specific service levels in order to efficiently utilize network bandwidth as suggested by Fall (Paragraph 0017).

Regarding claim 50, further recites limitations to monitor service level for the real-time communication within a given network using a particular coding scheme and if the service level falls below the minimal service level for the given network, direct the packetized communication of the additional VoIP terminal to another network. Shah teaches of monitoring a service level for real-time VoIP communication using a coding scheme for the given network interface (Fig. 5 and its description), and Fall teaches of redirecting the lower prioritized communication to backup network to accommodate the higher priority traffic.

Regarding claim 51, Civanlar teaches of multiple access points (APs) within the first network (Fig. 3 multiple voice gateways), each able to support packetized

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communications with at least one IP terminal (Fig. 3 users), each AP supports corresponding expected service of quality (col. 6 ll. 29-63 service quality based on selected coding); and this AP is selected corresponding to its expected service quality level (col. 9 ll. 25-29 dynamically selecting gateway based on traffic conditions and its support for the coding required for the terminal col. 6 ll. 29-63, col. 7 ll. 31-40).

Regarding claim 53, Civanlar teaches of the apparatus as an access point (Fig. 3 terminals 71, 72 access networks 52, 57 through gateway 100).

Regarding claim 58, Civanlar teaches of multiple network interfaces to service packetized communication with the mobile node (Fig. 4 item 109 one of the interfaces to gateways other than the above interfaces to first gateway in the first network and the second gateway in the second network, also item 313, also item 302 is coupled to service packetized communication of calling VoIP terminal to called terminal 313).

10. Claims 3, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Civanlar, Shah and Fall as applied to claim 1 above, and further in view of Skemer (US Patent No. 6,570,849 B1).

Regarding claims 3, 5, Fall teaches of identifying between real-time communication traffic and lower precedence traffic and reducing the service level of lower precedence traffic (Paragraph 0009), but Civanlar, Shah and Fall do not teach of adjusting the service level of non real-time communication relatively lower than a service level of the real-time communication.

However, in the same field of communication, Skemer teaches of a gateway prioritizing real-time and non-real-time data and reducing the service level of non-real-time data relative to the real-time data (col. 8 ll. 36-57; col. 11 ll. 53-col. 12 ll. 60).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Civanlar, Shah and Fall to prioritize real-time and non-real-time data and reducing the service level of non-real-time data relative to the real-time data as taught by Skemer in order to provide "Voice over IP (VoIP) gateways that provides voice Quality of Service (QoS) comparable to the Time Division Multiplexing (TDM) realm of traditional telephony" (Skemer, col. 5 ll. 32-35).

11. Claims 3, 5, 7, 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Civanlar, Shah and Fall as applied to claims 1, 6 above, and further in view of Leung (US Patent Application Publication No. 2002/0087711 A1).

Regarding claims 3, 5, 11, 12, Fall teaches of identifying between real-time communication traffic and lower precedence traffic and reducing the service level of lower precedence traffic (Paragraph 0009), but Civanlar, Shah and Fall do not teach of reducing the service level of non real-time communication relatively lower than a service level of the real-time communication, or prioritizing real-time communication over non real-time communications, or audiovisual communication for conferencing.

However, in the same field of endeavor, Leung teaches of a gateway and a method wherein the gateway uses various codecs to process audio and video packetized communication and reduces the service level of non voice packets by

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prioritizing voice communication packets over other packets for any communication including conferencing (Paragraphs 0042-0046, 0051-0053, 0061-0062).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Civanlar, Shah and Fall to include various codec capabilities in the programmable codec to process audio and video packetized communication and to reduce the service level of non voice packets by prioritizing voice communication packets over other packets for any communication including conferencing as taught by Leung in order to provide "the ability to optimize voice packets and give them an optimal number of network resources so that they proceed with less interference and delay to their destination" (Leung, Paragraph 0014) and to provide "the ability to increase the number of calls possible during traffic levels that are below the normal range" (Leung, Paragraph 0015).

Regarding claim 7, Leung teaches of using the receive signature to determine whether the packetized communication is the real-time communication (Paragraph 0045 translating between audio and video, Paragraph 0061 setting and reducing priority of received packets as per voice or data).

12. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Civanlar, Shah and Fall as applied to claim 6 above, and further in view of Murphy (US patent No. 6,282,192 B1).

Regarding claim 8, Civanlar teaches of analyzing receive and transmit signatures (col. 7 ll. 3-13 bandwidth utilization, Quality-of-Service in received packets in

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both directions), and Shah teaches of analyzing receive signature to determine the problem with the network (col. 7 ll. 22-54 timestamp, sequence number, determine a loss or intolerable delay), but Civanlar, Shah and Fall do not teach of analyzing receive signature that indicates problem with the apparatus.

However, Murphy teaches of analyzing received packet signature to determine the problem with the packet sender endpoint device (Figs. 2-3, 10-12 and their corresponding descriptions; gateways analyzing received VoIP packets for congestion information of sending side, the analysis by gateway (Fig. 12 item 108) of packets from Endpoint #1 (Fig. 12) inherently indicates the problem with VoIP network interface for Endpoint #1 directly connecting to IP network).

It would have been obvious to a person ordinarily skilled in the art at the time the invention was made to modify Civanlar, Shah and Fall to analyze the packets received from the VoIP endpoint device as taught by Murphy in order to extend Shah with VoIP device and use the programmable codec to monitor packets received from the endpoint VoIP device to indicate the problem of the router in receiving proper packets from the endpoint.

Regarding claim 9, Civanlar, Shah and Fall modified by Murphy as above obviously would pass the packets received from the far end of the network side to the near end VoIP endpoint device, thus transmitting the signature (with bandwidth utilization and Quality-of-Service) indicating the network problem to the endpoint VoIP device.

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13. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Civanlar, Shah and Fall as applied to claim 1 above, and further in view of Cheung (US Patent No. 6,515,964 B1).

Regarding claim 52, Civanlar teaches of selecting gateways (APs) based on traffic load condition (col. 9 ll. 25-29), but Civanlar, Shah and Fall do not teach of querying each of plurality of APs.

However, in the same field of communication, Cheung teaches of polling (querying) gateways (access points) for their supported current, projected, and historic traffic conditions (service level) for VoIP calls (col. 8 ll. 29-col. 9 ll. 56).

It would have been obvious to a person ordinarily skilled in the art at the time the invention was made to modify Civanlar, Shah and Fall to poll each gateway (AP) for its supported service level as taught by Cheung in order to dynamically compare the provided service level during the call and charge the call accordingly (Cheung, col. 9 ll. 40-56).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 6,236,642 Shaffer

US Patent Application Publication No. 2002/0105909 Flanagan

US Patent No. 6,510,219 Wellard

US Patent Application Publication No. 2003/091024 Stumer

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US Patent Application Publication No. 2003/0235177	Park
US Patent Application Publication No. 2004/0042402	Galand
US Patent Application Publication No. 2004/0073701	Huang
US Patent No. 6,781,983	Armistead
US Patent No. 7,088,677	Burst
US Patent No. 7,127,056	Hu
US Patent No. 7,203,163	Hundscheidt
US Patent No. 7,466,719	Xu

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HEMANT PATEL whose telephone number is (571)272-8620. The examiner can normally be reached on 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on 571-272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hemant Patel
Examiner
Art Unit 2614

/Hemant Patel/
Examiner, Art Unit 2614